Northwest Power and Conservation Council

May 4, 2004

MEMORANDUM

TO: Fish and Wildlife Committee

FROM: Bruce Suzumoto

SUBJECT: APRE issue paper discussion

Staff will continue discussion on proposed recommendations for the APRE issue paper and how hatchery reform can complement the vision and goals of the Council's Fish and Wildlife Program.

The Overall Vision for the Fish and Wildlife Program

The vision for this program is a Columbia River ecosystem that sustains an abundant, productive, and diverse community of fish and wildlife, mitigating across the basin for the adverse effects to fish and wildlife caused by the development and operation of the hydrosystem and providing the benefits from fish and wildlife valued by the people of the region. This ecosystem provides abundant opportunities for tribal trust and treaty right harvest and for non-tribal harvest and the conditions that allow for the recovery of the fish and wildlife affected by the operation of the hydrosystem and listed under the Endangered Species Act.

Wherever feasible, this program will be accomplished by protecting and restoring the natural ecological functions, habitats, and biological diversity of the Columbia River Basin. In those places where this is not feasible, other methods that are compatible with naturally reproducing fish and wildlife populations will be used. Where impacts have irrevocably changed the ecosystem, the program will protect and enhance the habitat and species assemblages compatible with the altered ecosystem. Actions taken under this program must be cost-effective and consistent with an adequate, efficient, economical and reliable electrical power supply.

Attachments: 1. Council memo dated March 30, 2004
2. Figures 1-5

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March 30, 2004

MEMORANDUM

TO: Fish and Wildlife Committee

FROM: Bruce Suzumoto

SUBJECT: APRE issue paper discussion

Staff will discuss possible APRE issue paper recommendations with the Committee. The three major recommendations of the issue paper are described below. Rob Walton of NOAA Fisheries will also participate in the discussion. As the Committee is aware we are working with NOAA Fisheries to coordinate our hatchery reform efforts. Changes in the ESA listing policy for hatchery fish will soon be released and may influence how future hatchery reforms are implemented. As part of the discussion we would also like to discuss the general elements of the new hatchery listing policy.

APRE issue paper

We propose that three major recommendations be highlighted in the APRE issue paper:

1. Implement strategies for hatchery programs that will better align subbasin, basin and out-of-basin goals with the best science and current regional needs and conditions.
2. Implement near-term prioritized hatchery reforms.
3. Develop an ongoing, sustainable hatchery review process.

1. Better align subbasin, basin and out-of-basin goals

With greater regional emphasis now being placed on naturally spawning populations and locally adapted stocks, it is an appropriate time to reexamine goals and objectives for hatchery programs in the Columbia Basin. Many external factors including the transformation of the world salmon markets and competition between commercial and recreational fisheries have also fueled the debate on the purpose and rationale behind many Columbia Basin hatchery programs.

The APRE review highlighted the issue that a large percentage of hatchery programs in the Basin are currently operated to enhance out-of-basin or mainstem fisheries. While there are a variety of social, legal and economic reasons why this has occurred, in general, local biological

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goals and escapement needs at the subbasin level have not been adequately considered. Many production programs still produce numbers or types of fish that are inappropriate for the area where they are released. In many cases, these fish are produced to satisfy more distant fishery needs and are not adequately integrated (in terms of habitat availability and numbers or types of fish released) with the subbasins where they are located. The problem is exacerbated further when hatchery production creates mixed stock fisheries that tend to overharvest local, naturally spawning populations. Subbasin goals and objectives could be severely compromised if hatchery production and harvest regimes are not coordinated with local needs.

Issues for discussion by the Committee:

- Why should greater emphasis be placed on local goals and objectives for hatcheries?

A complex structure of management agreements dictates how Columbia Basin fish runs are harvested. In many instances, hatchery production has been primarily used as a means to reach ocean and mainstem harvest objectives. Subbasin goals and objectives are generally not part of the hatchery production or harvest discussions. Because of this, subbasin escapement or harvest objectives may not be met because of the lack of integration within the current harvest and production structure. In order for local enhancement efforts to be successful greater focus must be applied to subbasin needs. This is of particular importance if subbasin plans are to serve as interim recovery plans for listed stocks.

- How can we better integrate subbasin planning and hatchery production?

A strategy for aligning hatchery production and harvest activities with local goals and objectives is needed for subbasin actions to be successful. Again, currently there is little interaction between production planning, harvest management and subbasin planning. The region needs to explore opportunities to integrate these activities in a more comprehensive manner. A facilitated regional process that balances subbasin goals and objectives with out of basin and mainstem harvest needs should be considered.

- How should hatcheries be used meet biological goals and societal needs?

Hatcheries should be only considered a means to meet biological and societal goals and objectives. They are tools to mitigate for lost habitat, to increase harvest opportunities and to help ensure the long-term viability of natural populations. Adequate abundance, diversity, productivity and spatial distribution are important measures of population health in ESA recovery planning. If used appropriately, hatcheries could be important tools to enhance these characteristics and assist in the recovery of naturally spawning populations within a particular ESU.

The attributes of abundance, life history and species diversity, productivity and spatial distribution are also important attributes basin-wide. These characteristics applied at the basin level can help guide recovery and enhancement efforts from a broader perspective. An approach using these principles not only makes ecological sense but also has socio-economic advantages by creating better harvest opportunities and utilization of the resource. Unfortunately, most hatchery production planning and release strategies have not made diversity, productivity or spatial distribution a high priority and have mainly focused on abundance. Using hatcheries to enhance increase and protect biodiversity in each subbasin

could be an important implementation strategy of subbasin plans. Salmon and steelhead needs for the Columbia Basin should also be established to help guide subbasin planning efforts.

Other questions:

- What are the risks and difficulties with changing hatchery objectives?
- How can we better balance mitigation, treaties and legal requirements with local needs?
- How can the region best come to agreement on hatchery goals and objectives?
- What should the Council's role be in hatchery reform?

2. Implement near-term prioritized hatchery reforms

The development of new goals and objectives for hatchery programs may change how hatcheries are operated in the future. However, reducing the risk to naturally spawning populations by implementing hatchery reforms should be undertaken immediately. To address this issue a process and strategy for near-term hatchery reforms must be developed. Questions to consider are:

- How should a near-term reform selection process be implemented?

Prioritization criteria should be established to guide 1) what types of hatchery reform actions can provide the most cost-effective benefits with the greatest certainty, and 2) where such actions should be taken to achieve greatest need. Once these criteria are defined, a reform process should be initiated that establishes solicitation and selection of hatchery reforms. Prioritization criteria should be reviewed regularly to reflect the latest research, goals and policy decisions.

Other questions:

- Who funds the reforms?
- What sources of funding are available?

3. Develop an ongoing, sustainable hatchery review process

Tools and procedures for tracking effects of hatchery programs on harvest and conservation goals are needed. Effective collection and dissemination of data and information are needed for hatcheries to remain successful over time. These procedures should be coordinated within the Columbia Basin to assure compatibility and avoid duplication of effort. Ease of access to decision makers, managers and operators are critical, tools and methods for maintaining and updating data sets need to be efficient and cost saving to assure that data sets are always as accurate and as up-to-date as possible.

- What are important elements to consider in an ongoing hatchery review process?

An ongoing hatchery review should include: 1) an estimation hatchery contribution to harvest and/or conservation goals for which they were funded, 2) an assessment of impacts of hatchery programs on natural-origin salmonids or on the environment where they operate, 3) a determination that the programs complement other management strategies (e.g. other

hatcheries and habitat restoration projects) within their watershed or region, and 4) a means to adjust hatchery programs to take into account changes in goals, habitat and stock status.

Other questions:

- What are the critical performance standards that need to be established and monitored?
- How can hatchery evaluations be carried out in an effective yet practical manner?
- How can research, monitoring and evaluation of hatcheries be coordinated?

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Figure 1

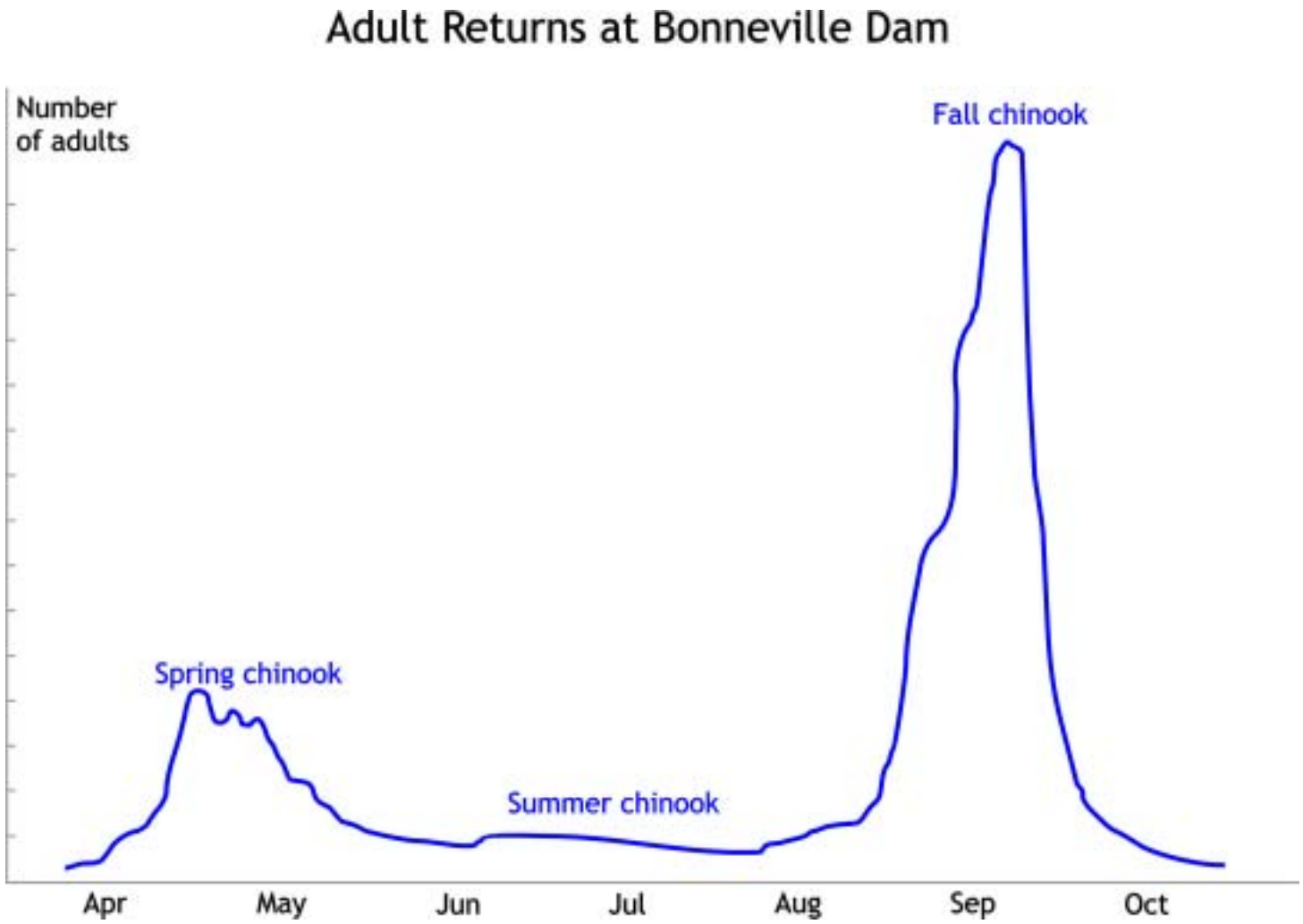

Adult Returns at Bonneville Dam
Number of adults
Fall chinook
Spring chinook
Summer chinook
Apr
May
Jun
Jul
Aug
Sep
Oct

Figure 2

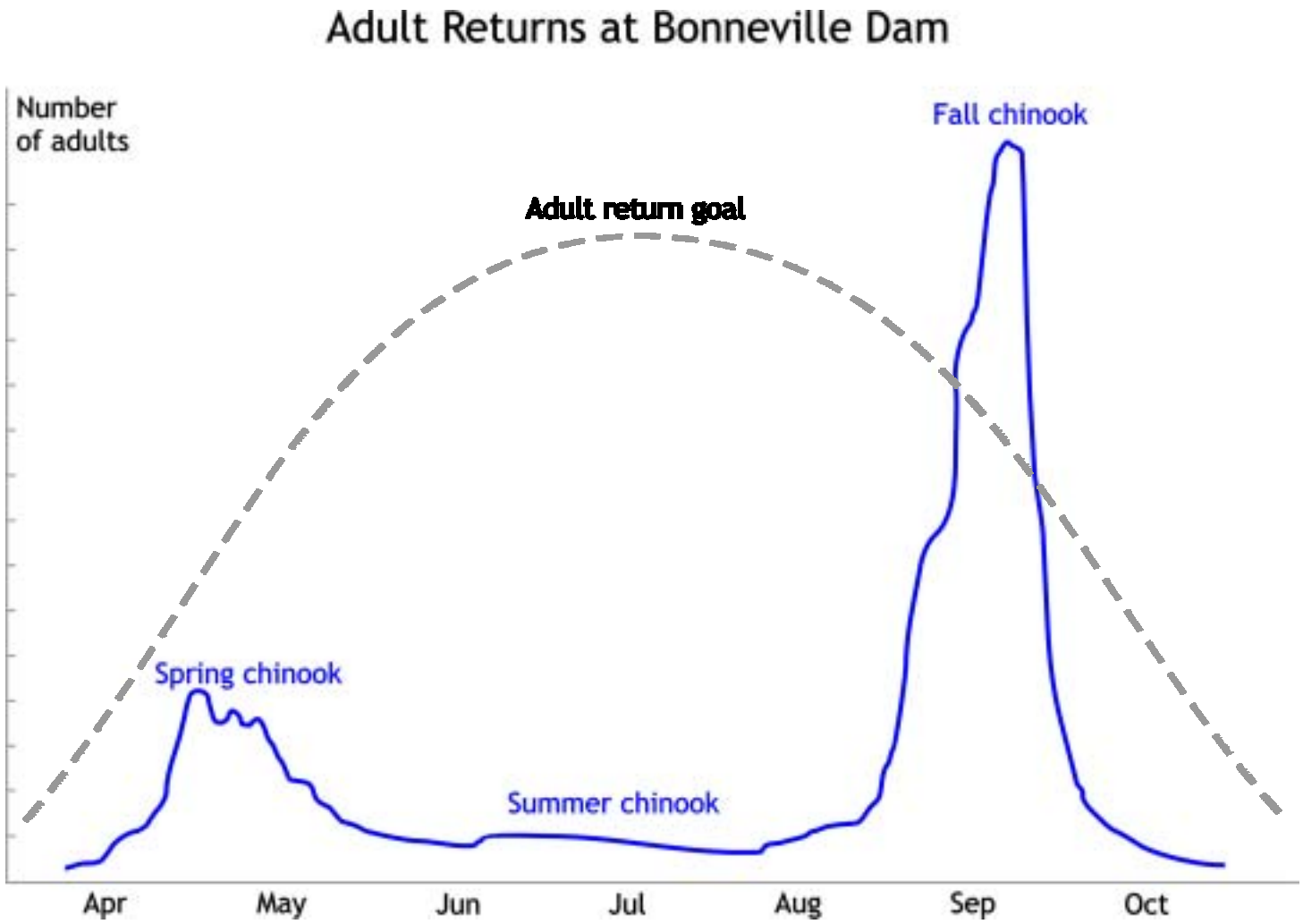

Adult Returns at Bonneville Dam
Number of adults
Fall chinook
Adult return goal
Spring chinook
Summer chinook
Apr
May
Jun
Jul
Aug
Sep
Oct

Figure 3

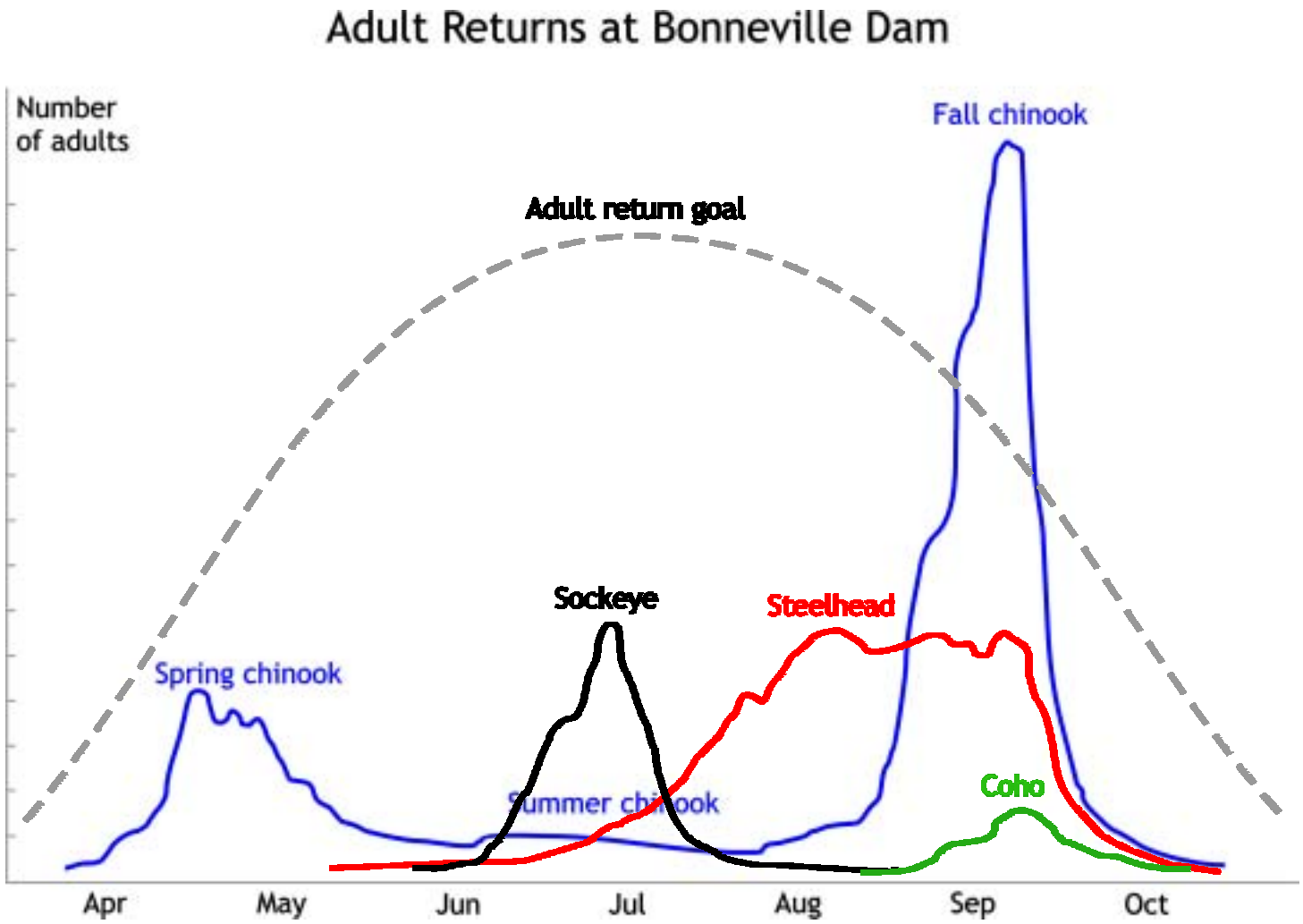

Adult Returns at Bonneville Dam
Number of adults
Fall chinook
Adult return goal
Sockeye
Steelhead
Spring chinook
Coho
Summer chinook
Apr
May
Jun
Jul
Aug
Sep
Oct

Figure 4

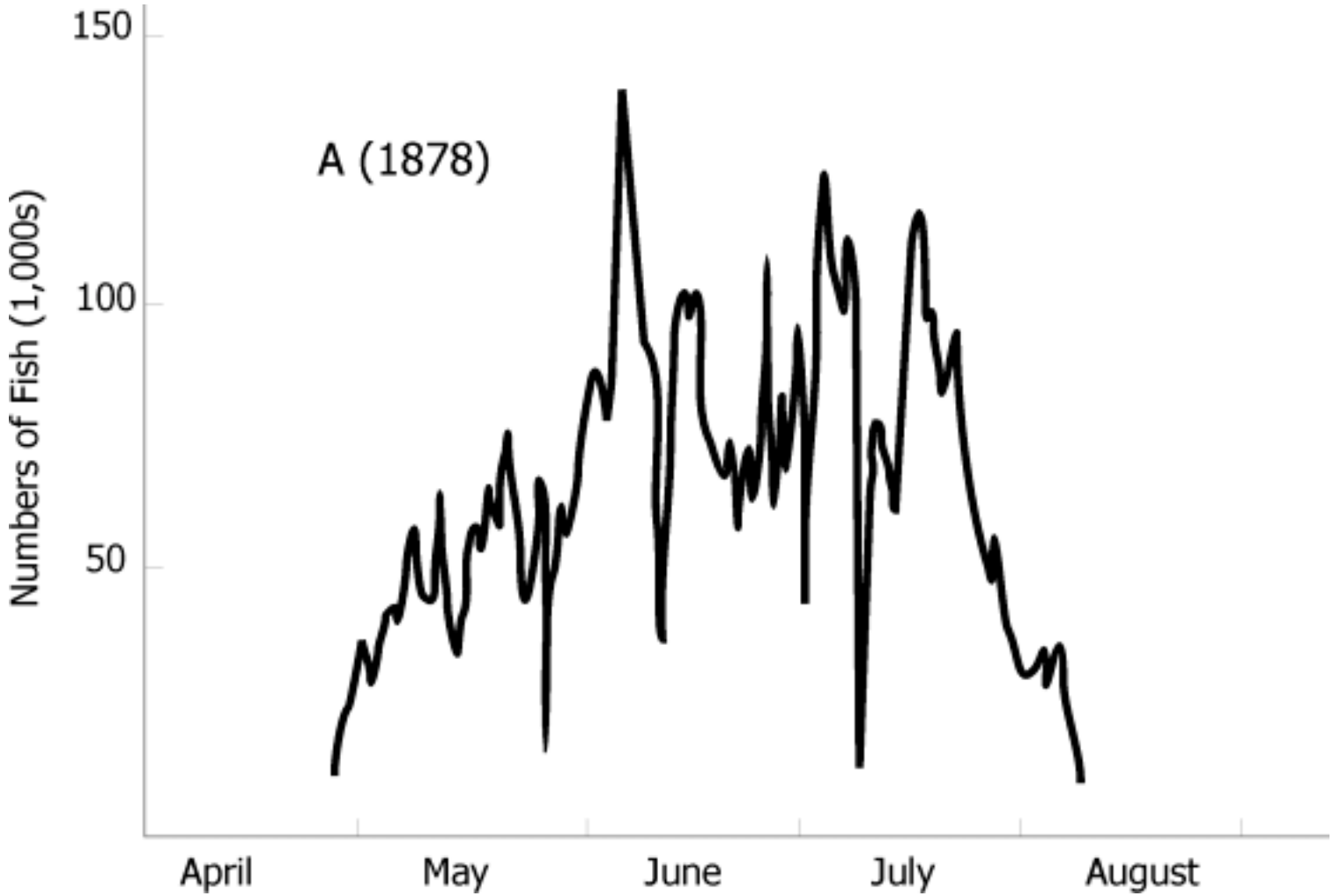
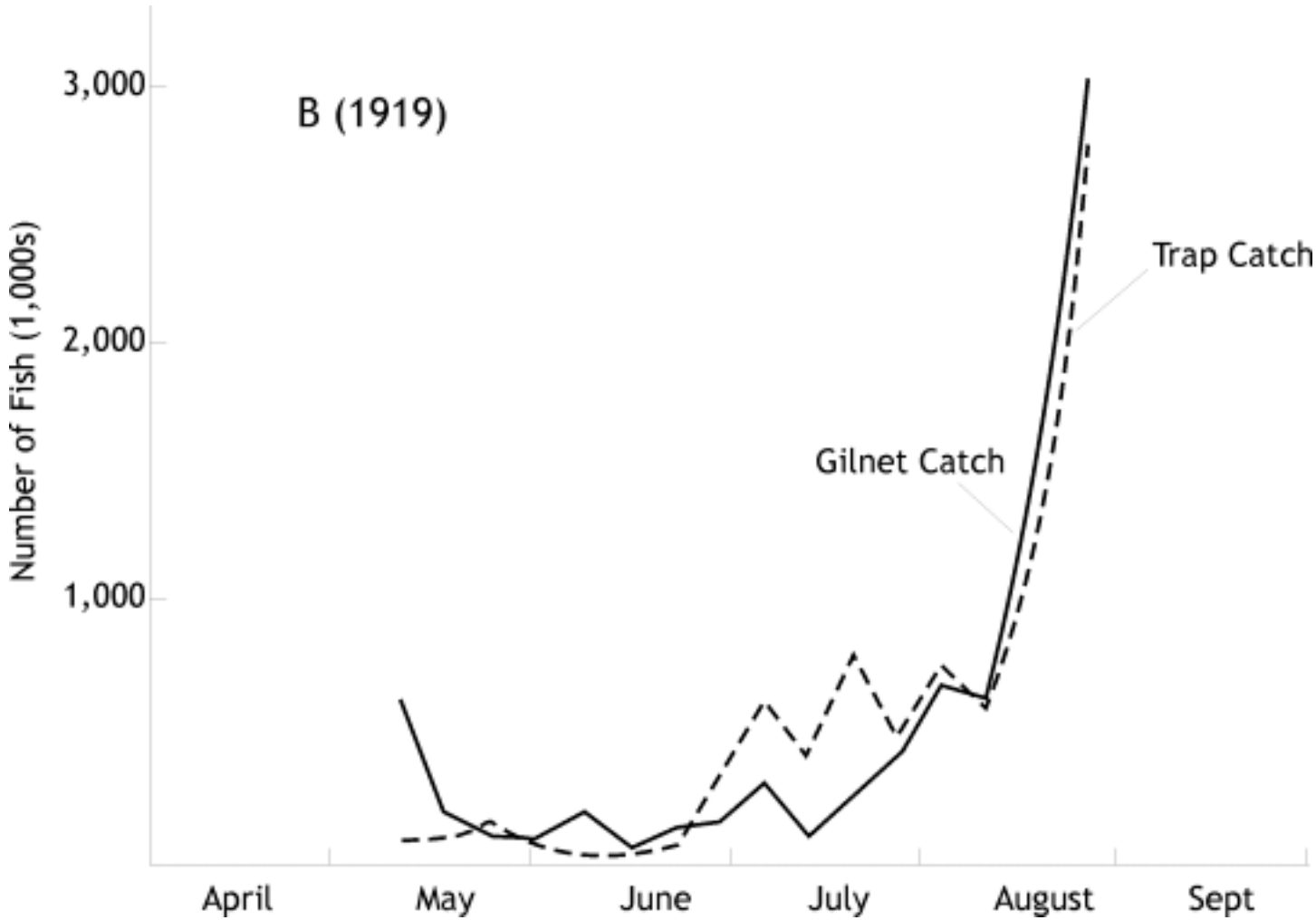

150
100
50
Numbers of Fish (1,000s)
A (1878)
April
May
June
July
August

Figure 5


B (1919)
Number of Fish (1,000s)
3,000
2,000
1,000
Trap Catch
Gilnet Catch
April
May
June
July
August
Sept